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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,815	03/23/2005	Takashi Ishii	268185US3PCT	4193
22850 7590 04/30/2008 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER KRUER, STEFAN	
			ART UNIT 3654	PAPER NUMBER
			NOTIFICATION DATE 04/30/2008	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com  
oblonpat@oblon.com  
jgardner@oblon.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/528,815	<b>Applicant(s)</b> ISHII ET AL.	
	<b>Examiner</b> Stefan Krueer	<b>Art Unit</b> 3654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 30 - 43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 30 - 43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11 January 2008</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Objections*

**Claim 30** is objected to because of the following informalities: On Page 3, Line 1, "sheave" of "cage-side sheave" should be plural. Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

**Claims 30 - 43** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

**Claim 30**, Page 3, Lines 11 and 14, recites "...pair of right and left cage-side sheaves are rotatably supported by supporting means provided on an upper surface of the cage-side sheave..." and "... an upper side surface..." respectively, whereby, with respect to the former, as understood, the supporting means comprise a shaft (depicted, not designated) and brackets (15a) - neither of which are provided *on* an upper surface of a cage-side sheave. The shaft is located along a centerline of a cage-side sheave and the brackets are mounted on a horizontal plane just beneath an axial centerline of said sheave and at an undisclosed offset along said axial centerline from said sheave.

With respect to the "upper side surface", this is interpreted as "... a side surface of one of the pair of right and left cage-side sheaves extending above said cage-side supporting beam..."

Furthermore, **Claim 30** recites on Page 3, Line 8, "...lower parts of right and left cage-side sheaves are disposed in a space therebetween...", whereby "lower parts" was not defined in the specification. In that a sheave is circular and rotates about its

axis, and elements comprising said sheave from which "parts" can be deduced were not disclosed; therefore, the recitation is interpreted for prosecution as "...*said* right and left cage-side sheaves are *partially* disposed in a space therebetween..."

**Claims 30 – 33, 35 – 37, 40 and 43** are rejected under 35 U.S.C. 103(a) as being unpatentable over Aulanko et al (5,429,211) in view of Root et al (5,957,243) and in further view of Narumi et al (5,533,595).

**Re: Claim 30**, Aulanko et al disclose:

- a cage (1) guided by a pair of right and left-side guide rails (10);
  - a traction sheave (7) disposed within a top of the elevator shaft, driven in a rotational axis, whereby the rotational axis of their traction sheave extends in a forward and rearward direction (Col. 8, Line 42), said traction sheave disposed behind and near one of the guide rails (Fig. 2) and a rear side wall when viewed vertically from above;
  - a driving apparatus (6) disposed behind and coaxially with the traction sheave;
  - a counterweight (9) guide by a pair of guide rails (11) for vertical motion;
  - a pair of right and left cage-side sheaves (4 and 5) that suspend the cage and extend at a direction angle close to that of the rotational axis of the traction sheave (Fig. 4b);
  - and a hoist rope (3) composed of a plurality of ropes (Fig. 5) wound around the traction sheave, said hoist rope suspending both cage and counterweight;
- however, Aulanko et al are silent regarding a cage-side sheave supporting beam and a cage frame.

Attention is directed to Root et al who teach:

- a cage-side sheave supporting beam (32);
- a cage frame (18, 20) having an upper beam (20) extending in a right and left direction above an upper surface of their cage (16);
- whereby said cage-side sheave supporting beam supports a pair of right and left cage-side sheaves (30, 30) at both ends thereof,

- said cage-side sheave supporting beam being inserted in a vertical gap between their upper beam and said upper surface of the cage in a horizontal manner as well as connected to a center portion of the upper beam with a center portion thereof such that one of the pair of right and left cage-side sheaves is disposed near the traction sheave when viewed vertically from above, as the feature of their "... variable positioning of the tandem sheave assembly (that) facilitates the installation of the tandem sheave assembly" (Col. 1, Line 56);
- wherein said cage-side sheave supporting beam is configured with a pair of beam members (2 x 36, 2 x 38) extending parallel to each other such that said right and left cage-side sheaves are partially disposed in a space therebetween, and
- wherein a side surface of one of the pair of right and left cage-side sheaves extending above said cage-side supporting beam is in a vicinity of a rear side wall of the upper beam and an upper side surface of the other of the pair of right and left cage-side sheaves is in a vicinity of a front side wall of the upper beam (Col. 2, L. 48 – 60).

It would have been obvious to one of ordinary skill in the art to modify the reference of Aulanko et al with the teaching of Root et al for the benefit reducing installation costs and enhance "operability of the elevator system".

However, Root et al are silent with respect to their cage-side sheave supporting beams are disposed above rotational axes of their cage-side sheaves.

Attention is directed to Narumi et al who teach their pair of right and left cage-side sheaves (4, 5) are rotatably supported by supporting means such that said cage-side sheave supporting beams are disposed below rotational axes of their cage-side sheaves, wherein their cage-side sheave supporting beam (6) is configured with a pair of beam members extending parallel to each other such that said right and left cage-side sheaves are partially disposed in a space therebetween.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the reference of Aulanko et al and Root et al with the teaching of Narumi et al, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

**Re: Claim 31**, Aulanko et al disclose an elevator system having no machineroom and his driving apparatus as disposed between the traction sheave and a rear inner wall of the elevator shaft (Col. 8, Line 37).

**Re: Claim 32**, Aulanko et al disclose their driving apparatus (6) is configured similar to a cylinder disposed concentric with their traction sheave (7) between the traction sheave and a rear inner wall of their elevator shaft (Col. 8, Line 41).

**Re: Claim 33**, though neither Aulanko et al nor Root et al disclose or teach said cylinder having a diameter effectively equal to that of their traction sheaves, the disclosure of the instant invention acknowledges such as known in the art (Fig. 5).

**Re: Claim 35**, Aulanko et al disclose the cage-side sheaves being disposed near the right and left sidewalls of the cage, respectively (Fig. 2).

**Re: Claim 36**, Aulanko et al disclose the disposition of the cage-side sheaves within a vertical projection of the cage as "...obvious that the hoisting ropes need not necessarily be passed under the car" (Col. 8, Line 30 and Fig. 2).

**Re: Claim 37**, Aulanko et al disclose the cage-side sheaves disposed symmetrically with respect to the center of the cage as depicted in Figure 4b and furthered by "Passing the ropes diagonally or otherwise obliquely ... which (sic) is an advantageous solution ...to ensure that the car is symmetrically suspended on the ropes with respect to the center of mass of the car" (Col. 8, Line 44).

**Re: Claim 40**, Aulanko et al disclose the cage-side rails extending to the top of the shaft (Fig. 4a, per mounting to 16).

**Re: Claim 43**, Aulanko et al are silent regarding a cage-side sheave supporting beam.

Root et al teach their cage-side sheave supporting beam having an upper frame that is connected at its center portion to a center portion of a lower surface of their upper frame, in keeping with the variable positioning for installation.

**Claims 34 and 38 - 39** are rejected under 35 U.S.C. 103(a) as being unpatentable over Aulanko et al in view of Root et al and Narumi et al, as applied to Claim 30, and in further view of Wittur et al (US 2004/0129501, earlier published as WO 02/053486).

**Re: Claim 34**, though Aulanko et al, Root et al and Narumi et al disclose a plurality of ropes, they are silent regarding their diameters.

Attention is directed to Wittur et al who teach their ropes having a diameter of 5 to 7 mm and preferably less than 6 mm (Para. 0018), thereby affording incrementally finer sizing for the anticipated (rated) service loads of the cage as well as enhanced effectiveness in lubricating and cleaning the ropes, when compared to the implementation of ropes of larger diameters.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the reference of Aulanko et al, Root et al and Narumi et al with the teaching of Wittur et al to gain the benefits of these commercial and performance features.

**Re: Claims 38 - 39**, though the driving apparatus of Aulanko et al and Root et al are mounted outside of the bounds of their cages, the corresponding device of Wittur et al partially overlaps the cage when seen from a vertical direction (Figures 2 and 3).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the reference of Aulanko et al and Root et al with the teachings of Wittur et al in order to minimize the twisting of the hoisting ropes for the enhancement of service life as well as the reduction in torque and the associated installation, operation and maintenance costs.

**Claims 41 - 42** are rejected under 35 U.S.C. 103(a) as being unpatentable over Aulanko et al in view of Root et al and Narumi et al, as applied to Claim 30, and in further view of Nakagaki et al (6,598,707).

**Re: Claim 41**, the traction sheaves of Aulanko et al and Narumi et al are mounted above their respective guide rails and Root et al are silent of the positioning of their traction sheave.

Attention is directed to Nakagaki et al who teach their traction sheave (44) disposed below the top (20b) of his cage-side guide rails whereby the cage can travel vertically above the drive, thereby affording access to the traction sheave and drive from the roof of the cage for maintenance as well as a reduced a elevator shaft length.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the reference of Aulanko et al, Root et al and Narumi et al with the teachings of Nakagaki et al for the benefits of reduction in shaft length and facilitating maintenance.

**Re: Claim 42**, the driving apparatuses of Aulanko et al and Narumi et al are mounted above their respective guide rails and Root et al are silent of the mounting of their driving apparatus.

Attention is directed to Nakagaki et al who teach their driving apparatus (40) supported by their pair of front and rear counterweight-side guide rails (31, 32) for the features of reduced shaft length and stable mounting of their drive.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the reference of Aulanko et al, Root et al and Narumi et al with the teachings of Nakagaki et al for space-saving and operability benefits.



### ***Response to Arguments***

Applicant's arguments with respect to **Claim 30** as filed 12 February 2008 have been fully considered but they are not persuasive.

The rejections of the previous office action were in response to the claim language. Applicant's arguments are based on the amended claim language applied to the prior art of reference; consequently, this office action comprises a detailed response to Applicant's arguments.

In view of the amended claim language and the application of prior art previously made of record yet not relied upon is applied above, the invention of Aulanko et al as taught by Root et al and Narumi et al disclose the invention of Claim 30.

With respect to the reference of Root et al in their use of "...complementary panels 44..." the use of such panels neither precludes the teaching(s) of the reference nor challenges the claim language.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 3654

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Kruer whose telephone number is 571.272.5913. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Cuomo can be reached on 571.272.6856. The fax phone number for the organization where this application or proceeding is assigned is 571.273.8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866.217.9197 (toll-free).

/Stefan Kruer/

Examiner, Art Unit 3654

17 April 2008

/Peter M. Cuomo/

Supervisory Patent Examiner, Art Unit 3654